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s/ Rachel Potash
Rachel Potash

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:
ROHIT DUGGAL, ET AL.

Serial No.: 10/782,679

Confirmation No.: N/A

Filed: February 18, 2004

For: **INHIBITORS OF HEPATITIS C VIRUS,
COMPOSITIONS AND TREATMENTS USING
THE SAME**

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

Honorable Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT

UNDER 37 C.F.R. § 1.97(b) or 1.97(c)

37 CFR § 1.97(b)

- ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d); within three months of the date of entry of the national stage as set forth in § 1.491 in an international application; before the mailing of a first Office Action on the merits; or before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.

37 CFR § 1.97(c)

- ☐ The Information Disclosure Statement submitted herewith is being filed after three months of the filing date of a national application other than a continued prosecution application under § 1.53(d); after three months of the date of entry of the national stage as set forth in § 1.491 in an international application; after the mailing of a first Office Action on the merits; or after the mailing of a first Office Action after the filing of a request for continued examination under § 1.114, but before the mailing date of (1) a Final Action under § 1.113; (2) a Notice of Allowance under § 1.311; or (3) an action that otherwise closes prosecution in the application. The Commissioner is hereby authorized to charge the fee as set forth in § 1.17(p) to Deposit Account Number 500329.

- ☐ Applicant requests that the Examiner consider the following copending applications:


Application Serial No.	Filing Date

- ☐ Copies of these copending applications are enclosed.
- ☒ Applicant hereby requests consideration of the Information Disclosure Statement, USPTO form 1449, submitted herewith. Copies of the cited references, except as noted below, are enclosed.
- ☐ This application is a continuation, divisional or continuation-in-part of Serial No. [REDACTED]. Copies of the cited references, if not enclosed, are available in the file of the parent application or parents thereof.
- ☒ This application was filed after June 30, 2003, or entered U.S. national stage under 35 U.S.C. § 371, after June 30, 2003. Copies of U.S. Patents and U.S. Patent Application Publications are not enclosed. (1276 OG 55).
- ☐ Applicant hereby requests consideration of the enclosed International Search Report, which was received in a related international patent application.

The Commissioner is hereby authorized to charge any fee deficiency, including any fee required under 37 C.F.R. § 1.17(p), or credit any overpayment, to Deposit Account Number 500329. A duplicate copy of this form is enclosed.

Date: 31 March 2004

Respectfully submitted,



Jeffrey W. Rennecker
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Substitute for form 1449/PTO.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/782,679
Filing Date	February 18, 2004
First Named Inventor	Rohit Duggal
Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PC25446A

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	Cite No. ¹	DOCUMENT NUMBER	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ²			
	AA	5,652,262	07-29-1997	British Biotech Pharmaceuticals Limited	
	AB	5,700,838	12-23-1997	British Biotech Pharmaceuticals Limited	
	AC	5,753,653	05-19-1998	Agouron Pharmaceuticals, Inc.	
	AD	5,804,593	09-08-1998	Pharmacia & Upjohn Co.	
	AE	5,861,436	01-19-1999	British Biotech Pharmaceuticals Limited	
	AF	5,929,097	07-27-1999	American Cynamid Company	
	AG	5,962,481	10-05-1999	American Cynamid Company	
	AH	5,977,408	11-02-1999	American Cynamid Company	
	AI	5,985,900	11-16-1999	Agouron Pharmaceuticals, Inc.	
	AJ	5,985,653	11-16-1999	Aastrom Biosciences, Inc.	
	AK	6,153,757	11-28-2000	Agouron Pharmaceuticals, Inc.	
	AL	6,162,821	12-19-2000	American Home Products Corporation	
	AM	6,197,795	03-06-2001	American Cynamid Company	
	AN	6,228,869	05-08-2001	American Cynamid Company	
	AO	6,268,379	07-31-2001	Olympus Optical Co., Ltd.	
	AP	6,340,691	01-22-2002	American Cynamid Company	
	AQ	6,365,587	04-02-2002	Voss, et al.	

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DATE CONSIDERED:

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. Send to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PC25446A

AR	6,429,213	08-06-2002	Xue, et al.	
AS	6,462,042	10-08-2002	Darwin Discovery Limited	
AT	6,465,508	10-12-2002	Wyeth	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	AU	WO 00/04892	02-03-2000	Warner-Lambert Company		

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
AV		BAGSHAW, K. et. al., "Antibody-Directed Enzyme Prodrug Therapy: A Review," <i>Drug Development Research</i> , 1995, 220-230, Vol. 34.	
AW		BARTENSCHLAGER, et al., "Molecular Targets In Inhibition Of Hepatitis C Virus Replication," <i>Antiviral Chemistry & Chemotherapy</i> , 1997, 281-301, Vol. 8, No. 4.	
AX		BARTENSCHLAGER, et al., "Nonstructural Protein 3 Of The Hepatitis C Virus Encodes A Serine-Type Proteinase Required For Cleavage At The NS3/4 And NS4/5 Junctions," <i>Journal of Virology</i> , July 1993, 3835-3844, Vol. 67, No. 7.	

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First Named Inventor	Rohit Duggal
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Examiner Name	To be assigned
Attorney Docket Number	PC25446A

AY	BERTOLINI, G. et. al., "A New Rational Hypothesis for the Pharmacophore of the Active Metabolite of Leflunomide, a Potent Immunosuppressive Drug," <i>J. Med. Chem.</i> , 1997, 2011-2016, Vol. 40.
AZ	BODOR, N, "Novel Approaches to the Design of Safer Drugs: Soft Drugs and Site-Specific Chemical Delivery Systems," <i>Advances in Drug Research</i> , 1984, 224-331, 13.
BA	BROWN, et al., "Secondary Structure Of The 5'Nontranslated Regions of Hepatitis C Virus And Pestivirus Genomic RNAs," <i>Nucleic Acids Research</i> , 1992, 5041-5045, Vol. 20, No. 19.
BB	BUKH, J. et. al., "Sequence Analysis of the 5' Noncoding Region of Hepatitis C Virus," <i>Proc. National Academy of Science USA</i> , 1992, 4942-4946, Vol. 89.
BC	BUNDGAARD, et al., <i>Design of Prodrugs</i> , 1985, Elsevier Press.
BD	BUNDGAARD, H. "Design and Application of Prodrugs", <i>Drug Design Application and Development</i> , 1991, Harwood Academic Publishers.
BE	CHOO, et al., "Isolation of a cDNA Clone Derived From A Blood-Borne Non-A, Non-B Viral Hepatitis Genome," <i>Science</i> , 1989, 359-362, Vol. 244.
BF	DEAR, G.J. et. al., "Mass Directed Peak Selection, an Efficient Method of Drug Metabolite Identification Using Directly Coupled Liquid Chromatography-Mass Spectrometry-Nuclear Magnetic Resonance Spectroscopy," <i>Journal of Chromatography B</i> , 2000, 281-293, Vol. 748.
BG	HIJAKATA, et al., "Gene Mapping of the Putative Structural Region of the Hepatitis C Virus Genome by <i>In Vitro</i> Processing Analysis," <i>Proc. Natl. Acad. Sci. USA</i> , July 1991, 5547-5551, Vol. 88.
BH	HOOFNAGLE, J.H., et al., <i>Hepatology</i> , 1997, 15S-20S, 26.
BI	KATO, et al., "Activation of Intracellular Signaling by Hepatitis B and C Viruses: C-Viral Core is the Most Potent Signal Inducer," <i>Hepatology</i> , August 2000, 405-412, Vol. 32, No.2.
BJ	KAWASAKI, et al., "The Effect of Vinyl Esters on the Enantioselectivity of the Lipase-Catalysed Transesterification of Alcohols," <i>Tetrahedron: Asymmetry</i> , 2001, 585-596, Vol. 12.
BK	KOLYKHALOV, et. al., "Identification of a Highly Conserved Sequence Element at the 3' Terminus of Hepatitis C Virus Genome RNA," <i>Journal of Virology</i> , 1996, 3363-3371, Vol. 70, No. 9.
BL	LIN, et al., "Processing In The Hepatitis C Virus E2-NS2 Region: Identification of p7 and Two Distinct E2-Specific Products With Different C Termini," <i>Journal of Virology</i> , August 1994, 5063-5073, Vol. 68, No. 8.

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BM	LOHMANN, et al., "Biochemical Properties of Hepatitis C Virus NS5B RNA-Dependant RNA Polymerase and Identification of Amino Acid Sequence Motifs Essential for Enzymatic Activity," <i>Journal of Virology</i> , 1997, 8416-8428, Vol. 71.
BN	LOVE, et al., "Crystallographic Identification of a Noncompetitive Inhibitor Binding Site on the Hepatitis C Virus NS5B RNA Polymerase Enzyme," <i>Journal of Virology</i> , July 2003, 7575-7581, Vol. 77, No. 13.
BO	NASOFF, et al., "Identification of an Immunodominant Epitope Within the Capsid Protein of Hepatitis C Virus," <i>Proc. Natl. Acad. Sci. USA</i> , June 1991, 5462-5466, Vol. 88.
BP	PROX, et. al., "Rapid Structure Elucidation of Drug Metabolites by Use of Stable Isotopes," <i>Xenobiotica</i> , 1973, 103-112, Vol. 3, No. 2.
BQ	SHACKEL, et al., "Insights Into the Pathology of Hepatitis C Virus-Associated Cirrhosis," <i>American Journal of Pathology</i> , February 2002, 641-654, Vol. 160, No. 2.
BR	SHAN, D. et al., "Prodrug Strategies Based On Intramolecular Cyclization Reactions," <i>J. Pharm. Sci.</i> , 1997, 765-767, Vol. 86, No. 7.
BS	SPRAUL, et al., "Liquid Chromatography Coupled with High-Field Proton NMR for Profiling Human Urine for Endogenous Compounds and Drug Metabolites", <i>J. Pharmaceutical & Biomedical Analysis</i> , 1992, 601-605, Vol. 10, No. 8.
BT	STILL, W., et al., "Rapid Chromatographic Technique For Preparative Separations With Moderate Resolution," <i>Journal of Organic Chemistry</i> , 1978, 2923-2925, Vol. 43, No. 14.
BU	TANAKA, et al., "Structure Of The 3' Terminus Of The Hepatitis C Virus Genome," <i>Journal of Virology</i> , May 1996, 3307-3312, Vol. 70, No. 5.
BV	WEINER, et al., "Evidence for Immune Selection of Hepatitis C Virus (HCV) Putative Envelope Glycoprotein Variants: Potential Role in Chronic HCV Infections," <i>Proc. Natl. Acad. Sci. USA</i> , 1992, 3468-3472, Vol. 89.
BW	WEINER, et al., "Variable And Hypervariable Domains Are Found In The Regions Of HCV Corresponding To The Flavivirus Envelope And NS1 Proteins And The Pestivirus Envelope Glycoproteins," <i>Virology</i> , 1991, 842-848, Vol. 180.
BX	YU, et al., "Detection and Quantification of HCV-RNA in Immune Globulins Produced by Cohn-Oncley Fractionation of Human Plasma," <i>Viral Hepatitis and Liver Disease</i> , 1994, 574-477.

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